

IN THE CLAIMS:

Please AMEND claims 12-36; and

Please ADD claim 37, as shown below.

Claims 1-11 (Canceled)

12. (Currently Amended) A method, ~~for comprising:~~

~~controlling transmission power in a radio system having a transmitting end and a receiving end, the method comprising:~~

transmitting a digital signal from ~~the~~ a transmitting end to ~~the~~ a receiving end of a radio system;

receiving said digital signal at the receiving end;

setting an initial value of the transmission power so that no pseudo errors are detected, wherein a pseudo error defining is defined as an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur;

monitoring pseudo error occurrence in the received signal at the receiving end;

decreasing the transmission power gradually from the initial value at the transmission end when the pseudo error occurrence in an error-free reception does not fulfill a predetermined condition; and

increasing the transmission power by a predetermined amount when the pseudo error occurrence in the error-free reception fulfills the predetermined condition.

13. (Currently Amended) ~~A-The method as claimed in claim 12, wherein further comprising:~~

~~fulfilling the predetermined condition comprises by detecting the pseudo error.~~

14. (Currently Amended) ~~A-The method as claimed in claim 12, wherein further comprising:~~

~~fulfilling the predetermined condition comprises by detecting a second pseudo error within a predetermined time interval after the last pseudo error.~~

15. (Currently Amended) ~~A-The method as claimed in claim 12, wherein further comprising:~~

~~fulfilling the predetermined condition comprises by detecting a predetermined number of pseudo errors within a predetermined time interval.~~

16. (Currently Amended) ~~A-The method as claimed in claim 12, wherein further comprising:~~

~~increasing the transmission power is increased immediately when the pseudo error is detected.~~

17. (Currently Amended) ~~A~~ The method as claimed in claim 12, wherein the the decreasing the transmission power is decreased comprises decreasing the transmission power in predetermined steps for a predetermined time period at each step.

18. (Currently Amended) ~~A~~ The method as claimed in claim 17, wherein further comprising:

configuring a the predetermined step is to be 1 dB.

19. (Currently Amended) ~~A~~ The method as claimed in claim 12, wherein the method further comprises further comprising:

(a) adjusting the transmission power after the set-up of the radio system to the initial value high enough so that no pseudo errors are detected at the receiving end;

(b) decreasing the transmission power until a first pseudo error is detected;

(e) increasing the transmission power in response to the detected pseudo error; and

(d) jumping to phase (b) the decreasing the transmission power until the first pseudo error is detected if when no pseudo errors are detected during a predetermined time period after the transmission power has been increased in phase (e) the increasing the transmission power in response to the detected error.

20. (Currently Amended) A-The method as claimed in claim 12, ~~wherein~~ further comprising:

configuring the predetermined amount for the increasing the transmission power is to be 1 or 2 dB.

21. (Currently Amended) A-The method as claimed in claim 12, ~~wherein the method further comprises~~ further comprising:

using forward error correction (FEC) in the transmitted signal;

decoding the signal at the receiving end ~~by means of~~ using a FEC forward error correction decoder; and

interpreting the corrections made by the FEC forward error correction decoder as pseudo errors.

22. (Currently Amended) A-The method as claimed in claim 12, ~~wherein the method further comprises~~ further comprising:

using, at the receiving end, a demodulator provided with a first set of thresholds for making a decision on a received symbol and a second set of thresholds for making a decision on whether the pseudo error has occurred.

23. (Currently Amended) A-The method as claimed in claim 12, ~~wherein the method further comprises~~ further comprising:

monitoring the rate of actual errors at the receiving end; and
increasing the transmission power temporarily to the maximum transmission power when a predetermined error rate threshold is exceeded.

24. (Currently Amended) A radio system, ~~including~~comprising:
at a receiving end, a first means-unit adapted~~configured~~ to monitor pseudo error occurrence in a received signal and to produce a control signal indicating when pseudo errors are detected and when the pseudo error occurrence in an error-free reception is below a predetermined condition, wherein a pseudo error ~~defining is defined as~~ an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur, and
at a transmitting end, ~~second means~~ a second unit for adjusting ~~configured to~~ adjust transmission power responsive to said control signal by decreasing the transmission power when the pseudo error occurrence in the error-free reception does not fulfill the predetermined condition and by increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition.

25. (Currently Amended) ~~A~~ The radio system as claimed in claim 24, wherein said first ~~means-unit~~ includes a ~~FEC~~ forward error correction decoder ~~for decoding~~ configured to decode a ~~FEC~~ forward error correction coded signal and ~~for detecting~~ configured to detect pseudo errors.

26. (Currently Amended) A ~~The~~ radio system as claimed in claim 24, wherein said first ~~means-unit~~ includes a demodulator provided with a first set of thresholds for making a decision on a received symbol and a second set of thresholds for making a decision on whether the pseudo error has occurred.

27. (Currently Amended) A radio receiver, configured to:
monitor pseudo error occurrence in a received signal; and to
produce a control signal indicating when pseudo errors are detected and when the pseudo error occurrence in an error-free reception is below a predetermined condition,
wherein a pseudo error ~~defining~~ is defined as an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur.

28. (Currently Amended) A radio transmitter, configured to:
adjust transmission power responsive to a control signal,
wherein the control signal ~~indicating~~ is configured to indicate when pseudo errors are detected in a receiver and when pseudo error occurrence in the receiver is below a predetermined condition for an error-free reception,

wherein a pseudo error defining is defined as an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur,

wherein the radio transmitter is configured to adjust transmission power by decreasing the transmission power when the pseudo error occurrence does not fulfill the predetermined condition and by increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition.

29. (Currently Amended) A control unit ~~for a transmitting end of a radio link system, the control unit configured to:~~

set an initial value of transmission power so that no pseudo errors are detected in a received signal in a receiving end of ~~the a~~ radio link system, wherein a pseudo error defining is defined as an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur; and

adjust the transmission power responsive to a power control message received in the control unit by decreasing the transmission power when pseudo error occurrence in an error-free reception does not fulfill a predetermined condition and by increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition, wherein the power control message is based on information on pseudo errors

detected in the received signal in the receiving end and provides indication whether pseudo error occurrence in an error-free reception fulfills the predetermined condition.

30. (Currently Amended) A control unit ~~for a receiving end of a radio link system,~~
~~the control unit~~ configured to:

produce and send a power control message based on information on pseudo errors detected in a received signal and indicating whether pseudo error occurrence in an error-free reception fulfills a predetermined condition,

wherein a pseudo error ~~defining is defined as~~ an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur.

31. (Currently Amended) A computer program, embodied on a computer readable medium, said computer program controlling a computing system to perform ~~the steps of:~~

setting an initial value of transmission power so that no pseudo errors are detected in a received signal in a receiving end of the radio link system, wherein a pseudo error ~~defining is defined as~~ an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur; and

adjusting the transmission power responsive to a power control message by decreasing the transmission power when pseudo error occurrence in an error-free

reception does not fulfill a predetermined condition and by increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition,

wherein the power control message is based on information on pseudo errors detected in the received signal in the receiving end and provides indication whether pseudo error occurrence in an error-free reception fulfills the predetermined condition.

32. (Currently Amended) A computer program, embodied on a computer readable medium, said computer program controlling a computing system to perform: ~~the step of~~ producing a power control message based on information on pseudo errors detected in a received signal and indicating whether pseudo error occurrence in an error-free reception fulfills a predetermined condition,

wherein a pseudo error ~~defining is defined as~~ is defined as an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur.

33. (Currently Amended) A method, ~~for comprising:~~
~~controlling transmission power in a radio link system, the method comprising:~~
sending a digital signal;
setting an initial value of transmission power so that no pseudo errors are detected in a received signal in a receiving end of ~~the a~~ radio link system, wherein a pseudo error ~~defining is defined as~~ is defined as an instant when a right bit or symbol decision was made, but a

margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur;

receiving a power control message, which is based on information on pseudo errors detected in the received signal in the receiving end and indicating whether pseudo error occurrence in an error-free reception is below a predetermined condition;

decreasing the transmission power from the initial value when the pseudo error occurrence in the error-free reception does not fulfill the predetermined condition; and

increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition.

34. (Currently Amended) A method, comprising: ~~for~~
~~controlling transmission power in a radio link system, the method comprising:~~
receiving a digital signal;
monitoring pseudo error occurrence in the received signal, wherein a pseudo error ~~defining is defined as~~ an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur;

producing a power control message based on information on pseudo errors detected in the received signal and indicating whether pseudo error occurrence in an error-free reception fulfills a predetermined condition; and

sending the power control message to a transmitting end of ~~the~~ a radio link system.

35. (Currently Amended) A forward error correction decoder ~~for a radio link system, the forward error correction decoder comprising:~~

a first output ~~for outputting~~ configured to output a corrected bit stream, wherein the corrected bit stream is obtained by removing redundancy from a received bit stream; and

a second output ~~for outputting~~ configured to output an error signal indicating corrections made by the forward error correction decoder to obtain the corrected bit stream, wherein the error signal provides information for producing a control signal, the control signal indicating whether pseudo errors are detected in a received signal and whether the pseudo error occurrence in an error-free reception fulfills a predetermined condition, wherein a pseudo error defining is defined as an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur.

36. (Currently Amended) A method, comprising: ~~for controlling transmission power in a radio system having a transmitting end and a receiving end, the method comprising:~~

transmitting a digital signal from ~~the~~ a transmitting end to ~~the~~ a receiving end of a radio system;

receiving said digital signal at the receiving end;

setting an initial value of the transmission power so that no pseudo errors are detected, wherein a pseudo error defining is defined as an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur;

monitoring pseudo error occurrence in the received signal at the receiving end;

decreasing the transmission power gradually from the initial value at the transmission end when the pseudo error occurrence in an error-free reception does not fulfill a predetermined condition;

increasing the transmission power by a predetermined amount when the pseudo error occurrence in the error-free reception fulfills the predetermined condition;

monitoring occurrence of actual errors in the received signal at the receiving end;
and

overriding transmission power control based on monitoring of occurrence of pseudo errors by increasing transmission power if/when actual errors are observed.

37. (New) A radio system, comprising:

at a receiving end, first means for monitoring pseudo error occurrence in a received signal and producing a control signal indicating when pseudo errors are detected and when the pseudo error occurrence in an error-free reception is below a predetermined condition, wherein a pseudo error is defined as an instant when a right bit or symbol

decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur, and

at a transmitting end, second means for adjusting transmission power responsive to said control signal by decreasing the transmission power when the pseudo error occurrence in the error-free reception does not fulfill the predetermined condition and by increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition.